



A PRACTICAL GUIDE FOR

# Metrics Monitoring and Approaches

CRITICAL TOOLING FOR MODERN CLOUD APPLICATIONS

Best Practices and Case Studies for Deciding Your Best Approach

# INTRODUCTION

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It's a modern fact: data-driven, digital businesses outperform their competition. To get there, they use metrics extensively across their cloud application environments.

Unified metrics monitoring with real-time analytics is critical for SaaS businesses and digital enterprises to move faster with cloud applications on stable infrastructure. While it seems like there are many tools that generate metrics, a truly metrics-driven approach to cloud applications monitoring is quite different compared to many traditional monitoring approaches.

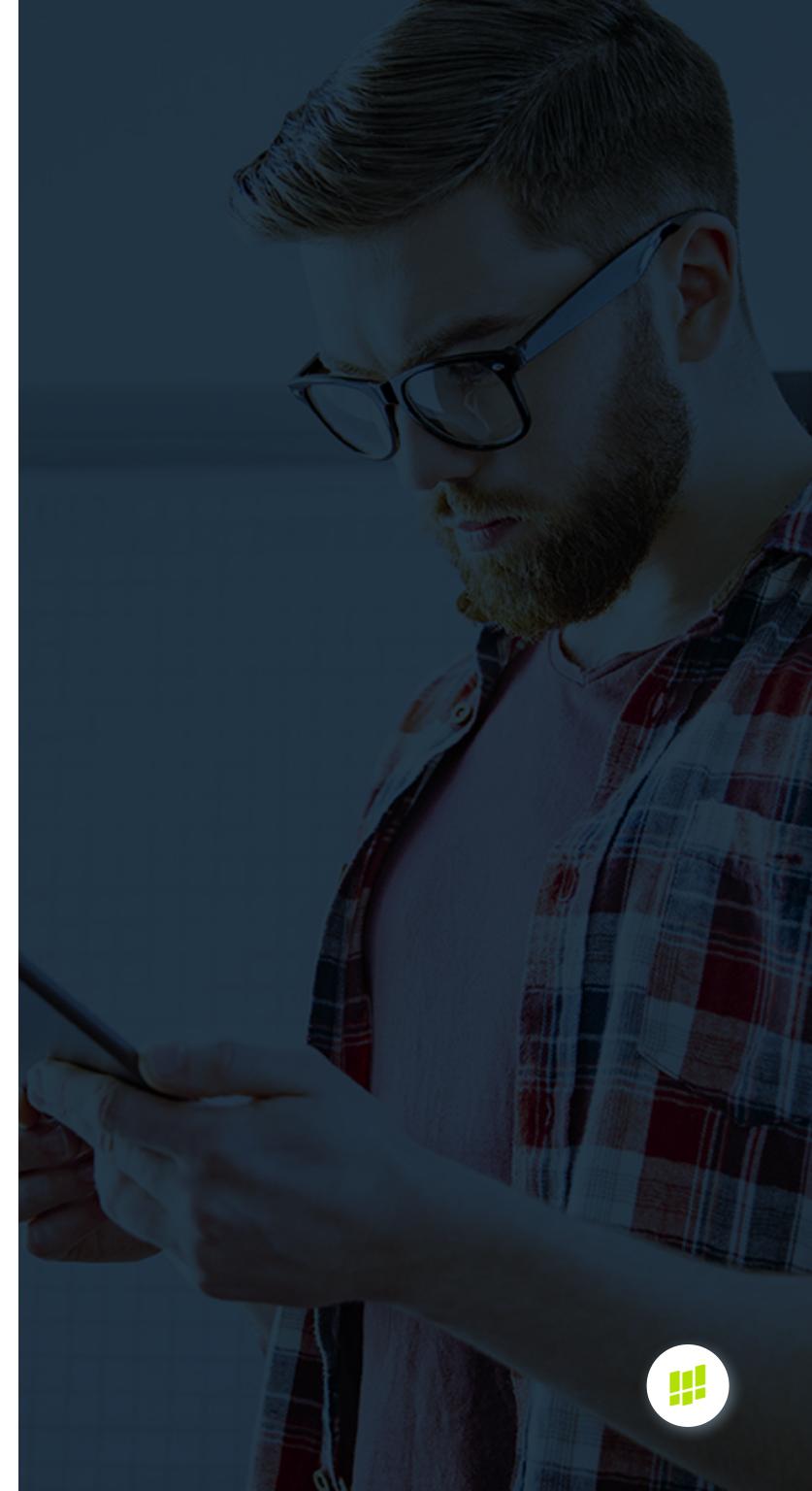
To realize the enormous value advantage of improving with metrics, leading organizations choose not to process serially in their adoption and maturation with metrics. Rather they strategically invest in people, process and tools to leap-frog through the maturity stages, aided with leverage of advanced tools to move faster.

Only an advanced metrics service such as Wavefront gives you the:

- Analytics depth for smart alerting and anomaly detection
- Flexibility and breadth for self-service metrics
- Performance, reliability, and scale for an enterprise roll-out

SaaS leaders like Intuit, Workday, Medallia, and Shooju are great case study examples of advanced metrics adoption. While they all chose Wavefront, they each took different paths in their metrics journey.

We hope this e-book motivates you to gain a metrics-driven advantage.



## ABOUT WAVEFRONT

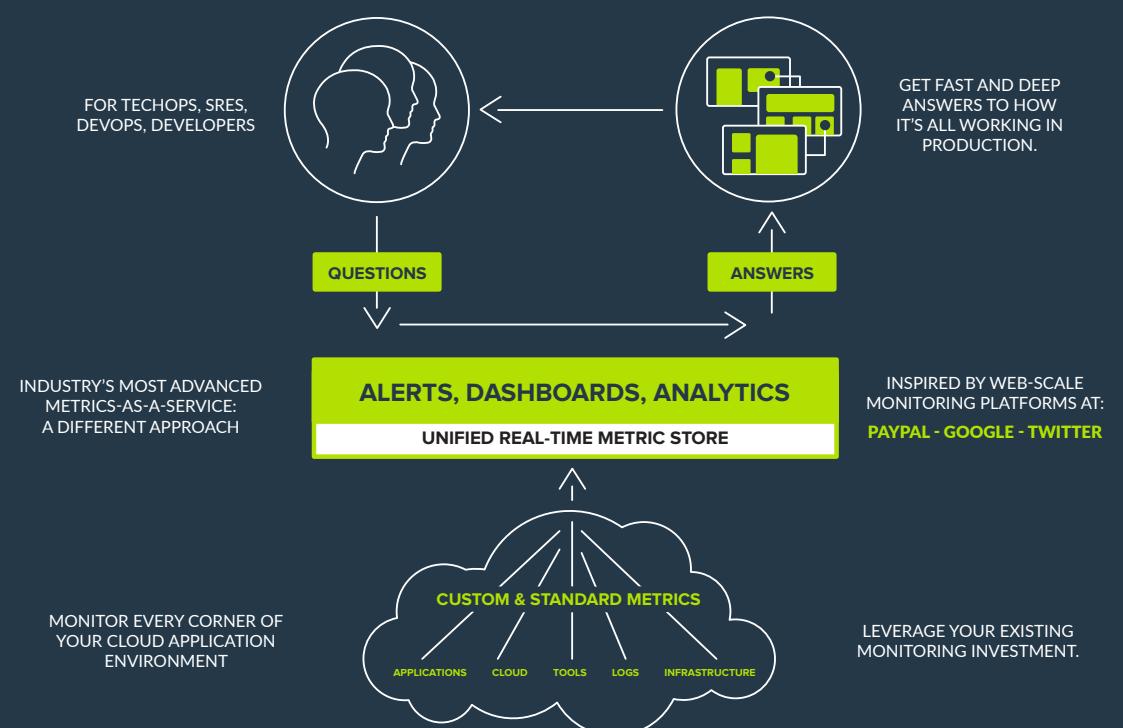
# Your First Pane of Glass to Manage Cloud Applications at Scale.

Here at Wavefront, we do Enterprise Metrics, and we help our customers to FLY with metrics. We are the leading, enterprise-class, cloud-native, metrics-as-a-service used by leading SaaS companies and digital enterprises.

About our heritage to start. Our founders were engineers at Google, Twitter, and Paypal in Silicon Valley, where they experienced web scale first at unprecedented levels, and had developed in-house, a new approach to monitoring based on combining metrics with analytics, along with other data from every corner and every layer of their estate. They unified it all in a single data store, with an analytics engine on top to drive visualizations and alerting – to find and drill down into anomalies faster. Then they made the set of tools available to everyone on the organization – not only TechOps and SREs and DevOps teams, but also, all the developers that were taking on more responsibility of their code in production, and they needed visibility into the production environment.

Inspired by these concepts, Wavefront developed them even further, made it all even better, and offered it as a cloud service to any SaaS business or digital enterprise wanting the power of advanced analytics on unified metrics – but allowing them to move faster by going with a turn-key cloud service backed by a company that understands and designs-in for enterprise reliability, performance, and usability at scale.

So that was back in 2013, and Wavefront has grown quite a bunch since, fueled with over \$70M from investors (\$52M in late 2016). Leading companies like Workday, Citrix, Microsoft, Box, British Gas, Marketo, Groupon, Intuit, and many more rely on Wavefront 24/7 to deliver the best in customer experience at an accelerate pace. For these digital leaders, Wavefront is their first pane of glass to manage their cloud applications at scale.



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# The What and Why of Metrics Monitoring

*“There are things I know I need to monitor, that I simply didn’t realize, before using Wavefront.”*



**Andres Vergara**  
Software Technical Lead, Citrix Online



# Data-Driven Companies Outperform

In a recent industry study published CIO.com, it found that data-driven companies outperform their competitors. Specifically, those that are ahead of their peers in their use of data are also three times more likely to be ahead in financial performance.

Notable findings in the report included:

### 1 Data-driven culture is about more than Data Specialists

Winning organizations don't concentrate data to individual or small groups, but instead, they integrate data into their daily operations, and make it available to as many employees as possible.

### 2 Top-performing companies have adopted a data-driven culture

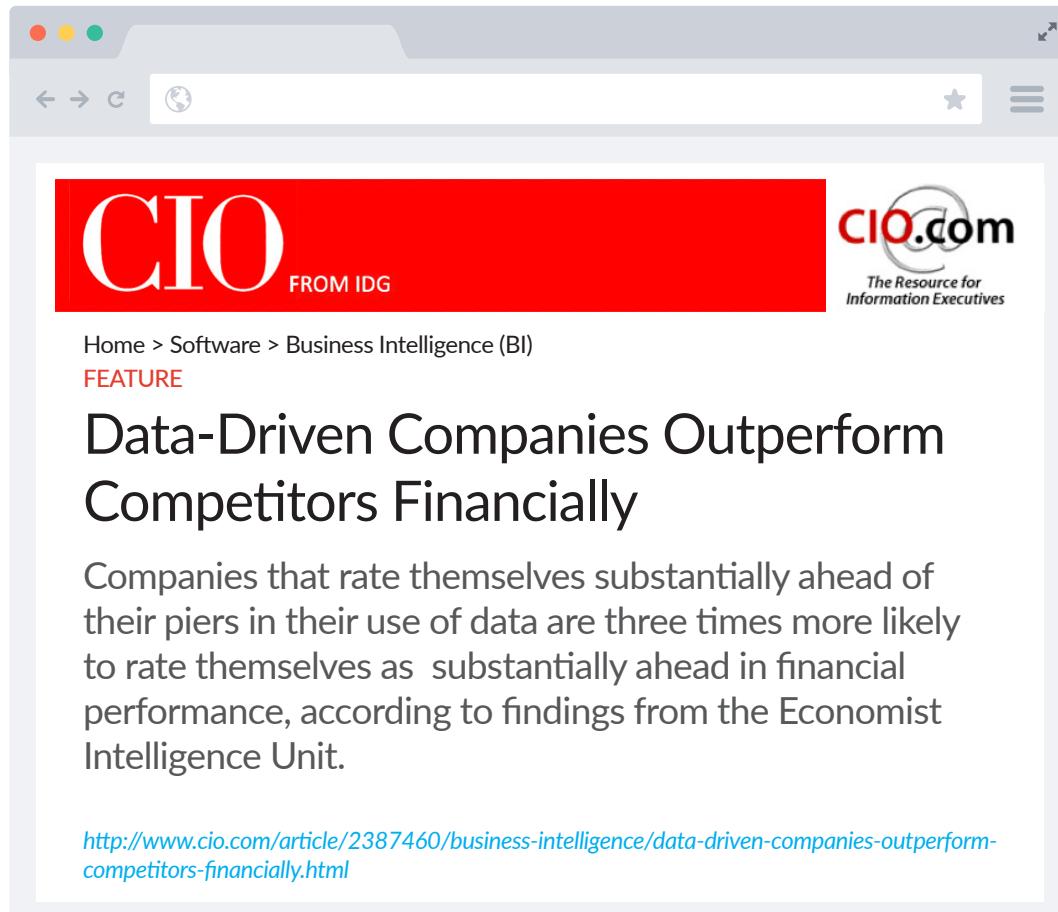
Adopting a data-driven culture is not necessarily easy, despite the awareness of the importance of data. But leaders kept focused on adoption. The challenge is that many don't know where to start, where to focus to get the most value, and how to translate the data into actionable insight.

### 3 Data-driven culture requires an executive champion

A key step in becoming more data-driven is to break down silos and promote sharing. Such sharing doesn't often arise organically – not a big surprise... it requires an executive champion!

### 4 Data-driven companies democratize data

Have data used by as many people as possible. Train employees to be more data literate. Form overlay teams that can provide tools and processes to broaden data use, also making it widely available and easy to use.



The screenshot shows a web browser window with the CIO.com logo at the top. The main content area features a red header with the word 'CIO' in large white letters, followed by 'FROM IDG'. To the right of the header is the 'CIO.com' logo with the tagline 'The Resource for Information Executives'. Below the header, the page title is 'Data-Driven Companies Outperform Competitors Financially'. The text below the title discusses how companies that rate themselves substantially ahead of their peers in data use are three times more likely to be ahead in financial performance. At the bottom of the visible content, there is a blue link to the full article: <http://www.cio.com/article/2387460/business-intelligence/data-driven-companies-outperform-competitors-financially.html>.

*And as we'll see in the case studies section, there is no one path to becoming a data-driven company. But on the next page, let's explain what metrics monitoring is.*



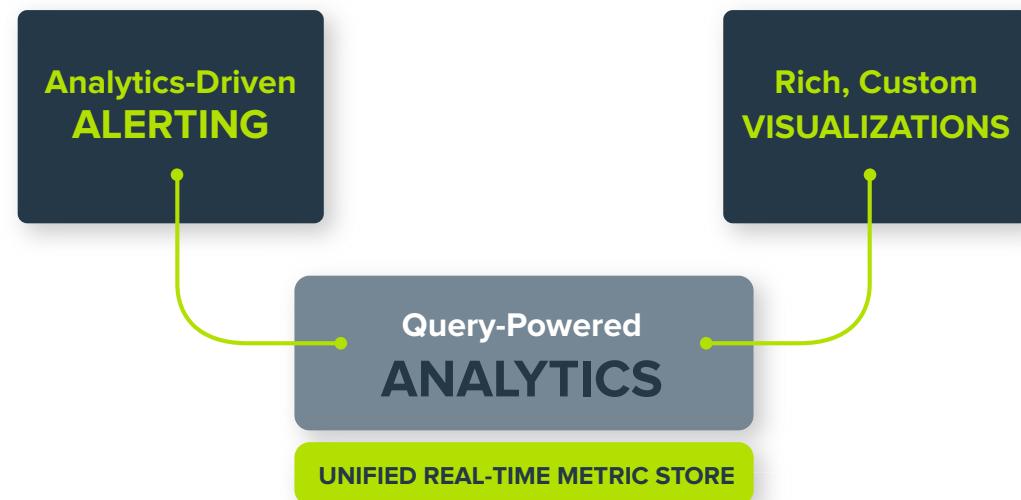
# Metrics Monitoring Explained

The wide and continuous use of operational metrics across the organization to reactively and proactively manage the health of a cloud application environment.

Metrics monitoring is the wide and continue use of operational metrics with advanced analytics to proactively and reactively assure the health of a cloud application environment. This includes alerting, dashboarding, and anomaly detection.

To start, a metrics-driven approach to cloud applications monitoring is quite different compared to many traditional monitoring approaches. It's full-stack, so it's about drawing insights from huge volumes of data, insights that aren't obvious or are hidden from traditional tools. It's a highly analytical approach, useful during both reactive modes (e.g. incident is unfolding) and proactive modes (e.g. preventative) within the monitoring lifecycle. Finally, it tends to be driven by what you want to know (query the data) vs. the system inflexible about showing you data in a rigid (pre-canned) UX.

Metrics are a special data type that are also very good at capturing change over time, in fact they're often a series in time (time series). Likewise, they are compressed, and are more efficient to store and process. And they are very good for overall monitoring of a system, however complex and dynamic (see page 9 for a comparison of metrics versus logs).



...all with Performance & Reliability at Scale

What this means for a platform that enables metrics monitoring is this:

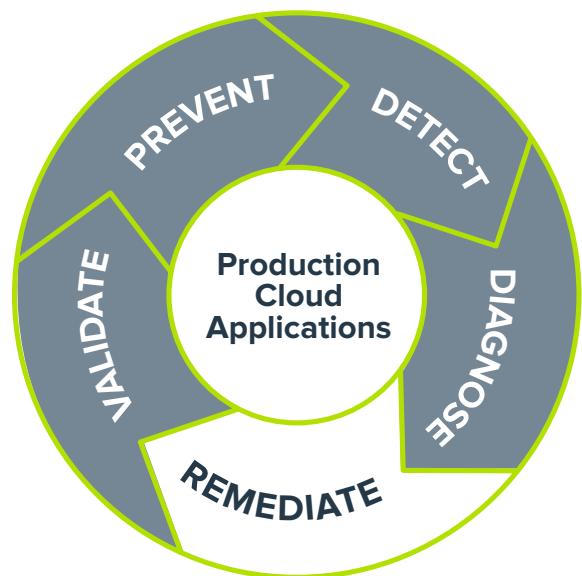
- Unified, real-time metrics store
- Advanced analytics engine and query builder
- Rich, custom visualizations for anomaly detection and dashboarding
- Analytics-driven alerting, so alerting can be make quite intelligent



# Metrics Monitoring Explained

The wide and continuous use of operational metrics across the organization to reactively and proactively manage the health of a cloud application environment.

## Automate Proactive Monitoring



- ✓ See anomalies earlier
- ✓ Investigate iteratively, faster
- ✓ Democratize monitoring

While the use of metrics monitoring is obvious in the reactive (detection and diagnose) phases of the monitoring cycle, the potentially more interesting use case is for more proactive and preventative uses (e.g. using metrics monitoring to optimize code ahead of potential problems, validating that it does what it's supposed to do, and also to identify and watch for leading indicators before an 'oops' moment occurs.) This is what is also meant by 'automating proactive monitoring'.

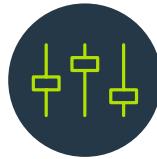
And all of this with the performance, reliability, usability, and economics that an enterprise-sized organization needs to roll it out to everyone in dev and ops.

Finally, metrics monitoring can enable the democratization of monitoring and metrics across the organization – particularly for developers that are taking on more responsibility for their code in production. Many dev teams are starting to do this, and to limited extent, with log data. They could be doing much more with metrics data, and a platform optimized for metrics.



# Logs vs. Metrics Explained

Metric points and log messages both provide value, but they tell different stories. There's a right tool for each to evaluate the respective data.



## Log Analytics

A log entry should give you information detail about a specific event, whereas, a metric should just let you know that an event occurred.

The specificity that a log message allows is what makes it valuable, but you only need that specificity when a problem arises. In normal operation, log files contain anomalies, not stacks of information telling you everything is ok (ideally, separate the information types).

### Sample log

```
60.255.10.159 -- [15/Feb/2017:00:17:44 +0000] "POST /sp-admin/admin-ajax.php HTTP/1.0" 200 46
"https://www.mydummmysite.com/wp-admin/post.php?post=8981&action=edit" "Mozilla/5.0 (Macintosh; Intel
Mac OS X 10_12_2) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/56.0.2924.87 Safari/537.16"
```



## Metric Analytics

Metrics can be incredibly smaller (than log messages) because they convey considerably less information. They're also extremely easier to evaluate. This has real impact around how metrics can be stored, processed and retained.

Metrics are better suited to giving you a good idea on how the system is performing, i.e. for overall monitoring of the system (uptime, KPIs, etc.).

### Sample metric



See also: "Logs vs. Metrics" [allthingsdork.com](http://allthingsdork.com)



# Why Metrics Monitoring is So Critical

Business Value: Move Faster with Stable Infrastructure



The first pane of glass to assess overall health, reduce tool sprawl

(1) Being that first pane of glass – with the best unified view of the overall health of the system – is a key reason why metrics monitoring is so critical today. But that is just the start of it. There is a lot more as to why a metrics monitoring approach is so critical today.



Enables the DevOps mantra: collect everything, monitor what matters

(2) Metrics are also essential to the DevOps manifesto around monitoring, that is, instrument and collect on everything that moves. But at the same time, you want to monitor (i.e. alert upon) only what matters. Easier said than done because you can easily get overwhelmed with the data deluge and struggle to pull the signal from the noise, as well as forget what's most important to watch and where there should be priority to act. The compactness of metrics and analytics on top, help get you there tremendously.



See things earlier that other tools can't see (with analytics)

(3) It's also the analytics on those metrics that allow you to see things earlier (sooner) that other tools just can't see. Analytics give you many windows to look into your data, but some windows don't show the view you need to see, and you need the flexibility to quickly look at the data in different ways, different windows, to understand what's really going on.



# Why Metrics Monitoring is So Critical

Business Value: Move Faster with Stable Infrastructure



Know the leading indicators before the “oops” moments

(4) As you advance with metrics monitoring, you can then start turning all of this into a more proactive operation, where you know the leading indicators well before something wrong happens (i.e. before the ‘oops’ moments). Now this is where metrics monitoring really stands out and can become quite strategic. Organizations that advance to use metrics monitoring in this way make leap-frog improvements in customer experience quality and overall business velocity. It's about being more strategic vs. tactical.



The best way to visualize dynamic cloud environments

(5) All of this is compounded by the fact that modern cloud environments are highly dynamic, often ephemeral, and getting to the phase of proactively looking for and understanding and monitoring those key leading indicators (sometimes based on subtle trends that only a metrics platform with analytics can detect) – to see things earlier and act sooner on something going bad.

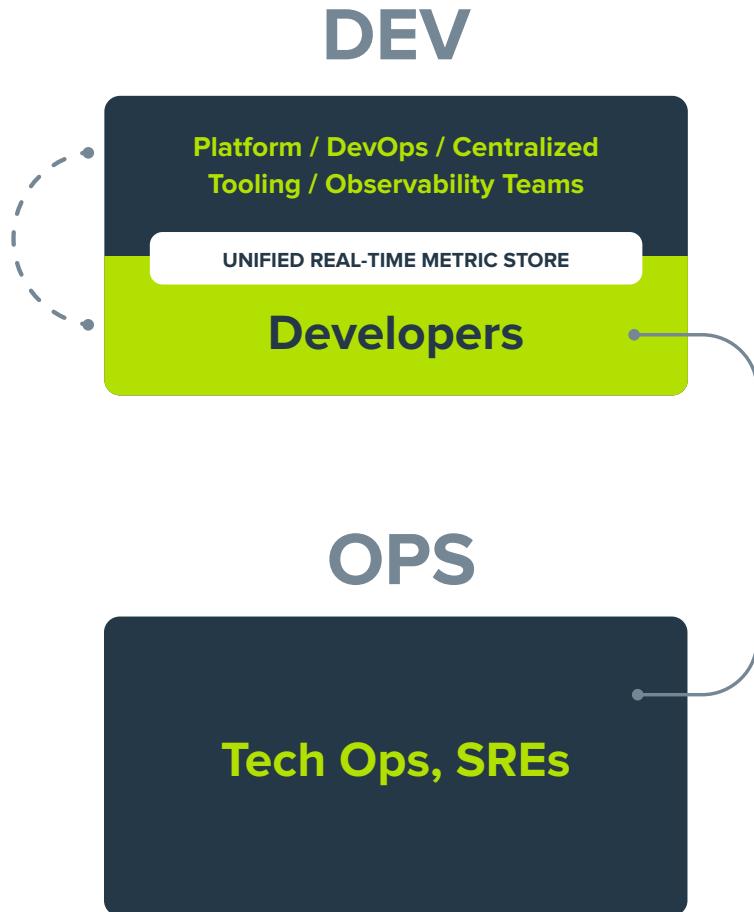


Democratize monitoring economically

(6) Perhaps the most critical value that metrics monitoring can deliver – often coupled with a more data-driven mentality – metrics monitoring can democratize monitoring across teams that's both collaborative and economical. This is “self-service” metrics as a platform across the organization, and particularly to developers who need visibility into their code in production. This is a crucial, value objective for digital enterprises. More and more are realizing they're a “software company” no matter what vertical they're in – it's all about moving faster, reducing the time spent on unplanned ops work by 30-50%, all with stable infrastructure along the way.



# Who Uses Metrics Monitoring



Here's more about who uses metrics monitoring, and how in particular, leaders are using it. Typically, it first starts in Ops.

But as DevOps culture takes further hold, and applications move to cloud and particularly to public cloud, the developers need to take on more responsibility for their code in production. And they need visibility. And they start to play around with tools, but different developers start using different tools, and the tools are inconsistent, and they do different things. And they're working with different data. And things begin to unravel a bit.

So then, we often see a middle group from that is focused on helping the developers, helping them to stay innovative and fast with code releases, by offloading them with tools and services. These groups are now getting names like the Platform group, the DevOps group, the Centralized Tooling or Observability group - those are a few of the group names we commonly see – and they offer a variety of tools and services to help the developer. Monitoring is usually a key component of that offering.

The advancement of metrics monitoring often advances with the formation of these groups and here is where the promulgation of a metrics-driven approach and platform often takes hold and advances. Real value starts to ensure. The Platform group often starts with a unified metrics platform to be rolled out to developers. Metrics and alerts and views are first set by that Platform team. But then the advancement of metrics usually occurs. Every developer team is different and they want to customize to their own needs. Metrics, views, alerts. But still everyone works off the same unified data store. And the same set of analytics and visualization tooling – there's huge collaborative value in that.

Now the organization is reaching the most advanced stage with metrics – they have moved to self-service metrics.



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# Approaches to a Metrics Platform

*“I trialed many hosted APM and logging tools, but only Wavefront gave us the metric analytics we needed.”*



**Serge Aluker**

CEO and Founder, Shooju.com



# Potential Approaches to a Metrics Platform

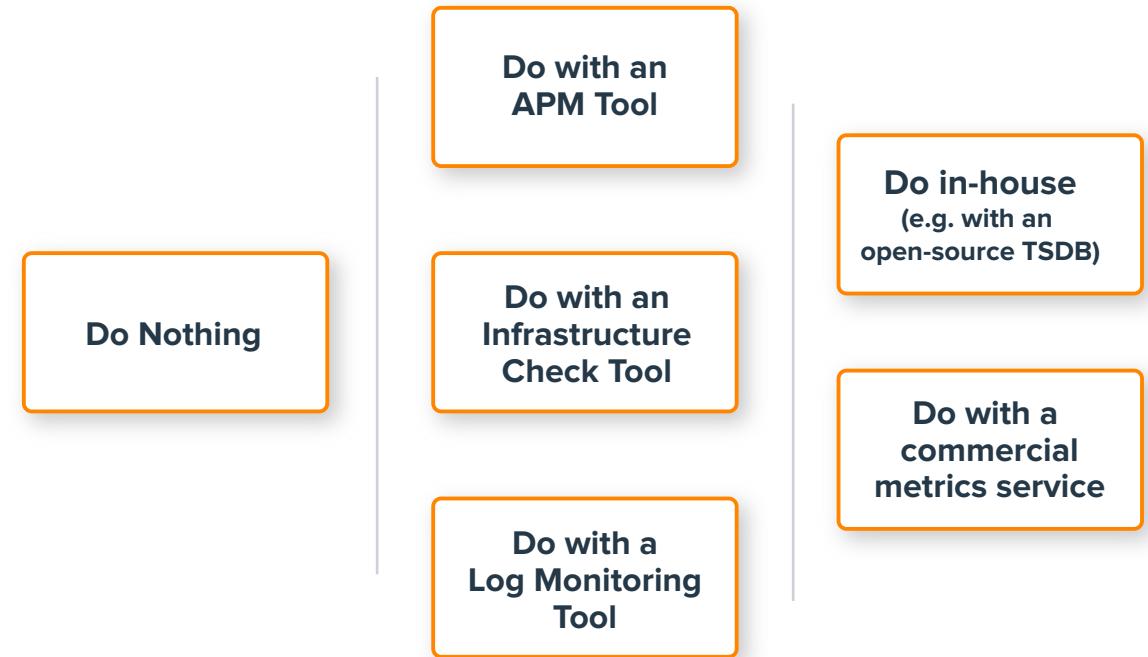
OK, we may have gotten slightly ahead of ourselves on the previous – but that was a good precursor for the Metrics Maturity Model, introduced on page 17.

But before that, let's now discuss the potential approaches to a metrics platform. There are five potential approaches, six if you include 'do nothing' as another.

The first set of approaches – the middle column of the image on the right - is based on trying to get to a metrics platform by using existing tooling. Commonly, it may be an APM tool like New Relic, an Infrastructure Check tool like Nagios, or a Log monitoring tool like Splunk. The premise is that each of these tools types can do something with metrics and alerts... I have the tool, and I get start to get moving with metrics by starting with what I got.

The next set of approaches – the image's right column - are based on a platform dedicated for unified metrics, albeit some are more capable than others. There is the first concept of trying to build it all yourself – could be to the level of what Google, Facebook, and Twitter had done, or more likely, built and integrated using a collection of open source projects, the heart of it being a TSDB like Graphite. In contrast, the remaining approach is to do it with a commercial metrics service – and within that sub-category, there are variations, from entry-level to advanced-level offerings.

There are pros and cons for each approach, no surprise there. The 'do nothing' is not as far-fetched as it may look. At Wavefront, we certainly engage with lots of new companies with an advanced-stage mentality for how they want to use metrics, but are just building-out their environment. So they are, at the least, starting at the 'do nothing' state.



# Potential Approaches to a Metrics Platform

What has become largely acknowledged in the industry now is that a commercial metrics service is the recommended approach for cloud-first organizations with revenue-generating SaaS business, particularly when:

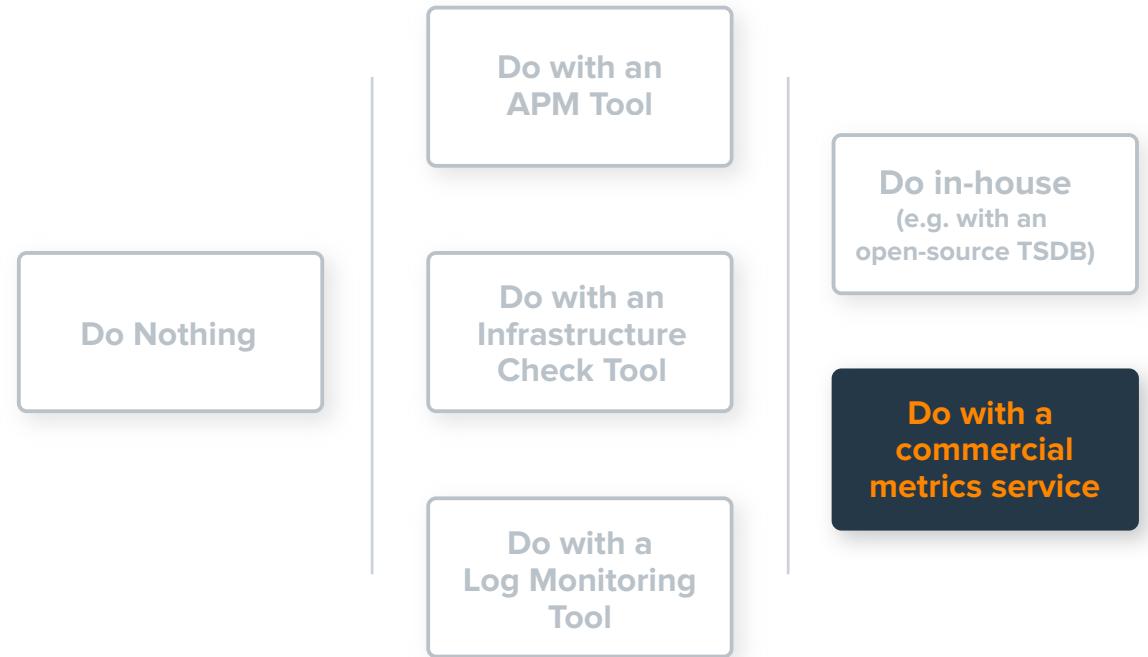
- Moving fast is a top priority
- You want to get to the advanced stages in your use of metrics, to get more proactive, and how it can be used for competitive advantage
- (and for more forward thinking organizations) You need enterprise-class and you want to roll out self-service metrics for your developers

But to be fair, why would you go with an APM / Infra-check / Log-mon tool for metrics monitoring?

- You know your given tool extremely well, are comfortable and happy with what it does for you, and where you want to be
- You're OK to progress slowly with metrics, as you don't really have the business need to advance more aggressively
- Maybe you're still in learning mode with a metrics-approach, and you are OK to progress serially
- There isn't a cultural willingness or motivation in your organization for a unit-step improvement in what metrics monitoring can deliver

Similarly, why would you roll your own, with open source components?

- You have the expertise, willingness/availability, and time
- You want absolute and total control of all aspects of the system
- It's a core competency that you develop and maintain/enhance the platform



# Comparative Matrix for Metrics Platforms

	Wavefront	Log Monitoring	APM	Infrastructure Checks	Open Source Time Series DB
ANALYTICS DRIVEN	✓	✓	✗	✗	✗
UNIFIED, OPEN	✓	✓	✗	✗	✓
REAL-TIME, HIGH PERFORMANCE	✓	✗	✓	✓	✗
ENTERPRISE SCALE	✓	✗	✓	✓	✗
DEVELOPER API FRIENDLY	✓	✗	✗	✗	✓
HIGHLY RELIABLE, FULL SUPPORT	✓	✓	✓	✗	✗
NO MAINTENANCE, -AAS	✓	✗	✗	✗	✗

The table above summarizes the comparison of metric monitoring approaches, rated across seven essential functionality sets. While each potential approach to metrics monitoring includes some important functionality, with the exception of Wavefront, they each also lack key functionality that make it incomplete to what you wholly need.

Wavefront is the only solution able to deliver Unified Metric Analytics with the performance, reliability, usability, and scale that enterprise-class (or any revenue-generating SaaS business) requires. Your metrics platform needs to deliver on ALL of these functionality sets. Don't compromise or cut corners, your business and customers won't let allow you to.



3

# Planning with the Metrics Maturity Model

*“Wavefront crunches and analyzes my metrics in a way that Graphite could never do.”*



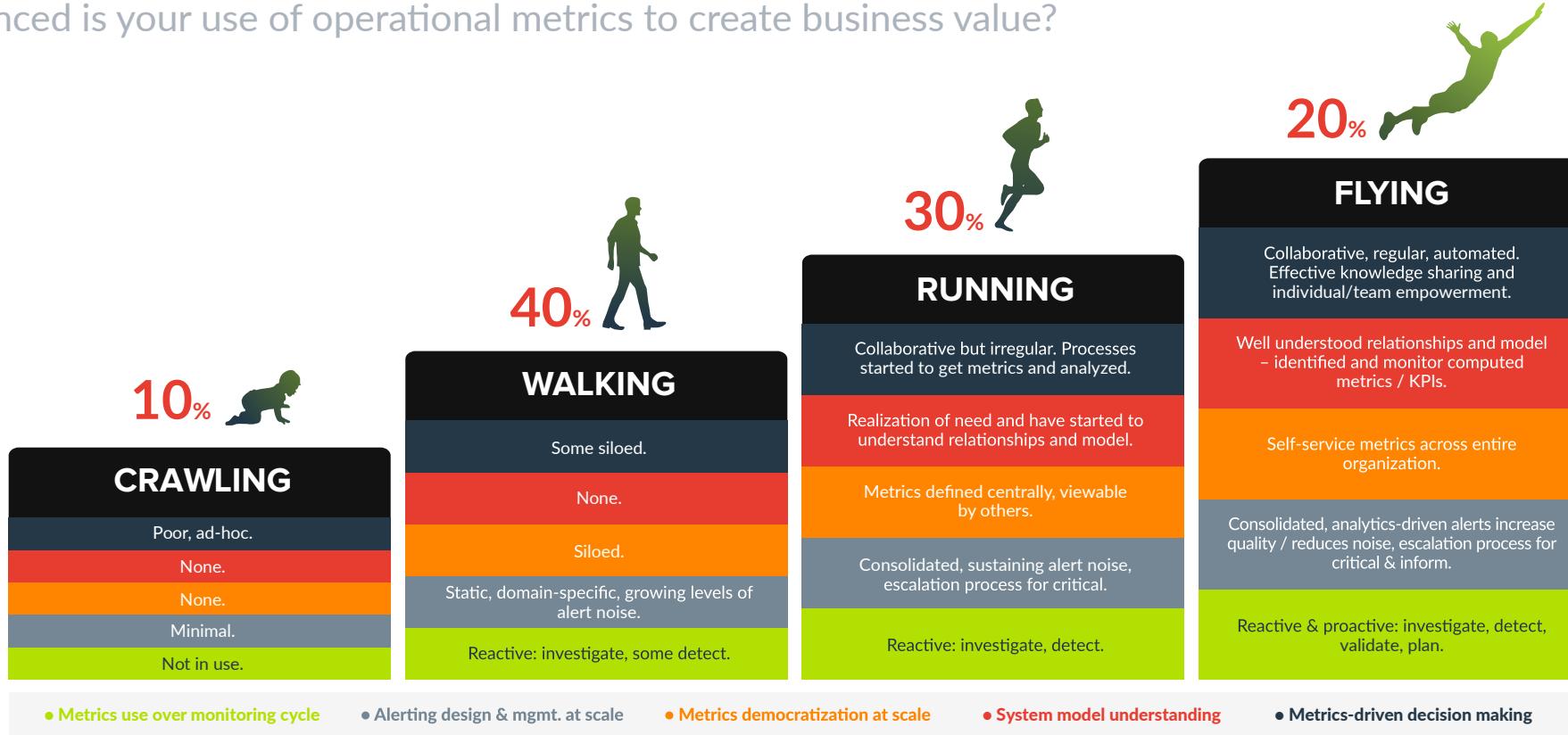
Raleigh Schickel

Software Manager - DevOps, uShip.com



# Intro to the Metrics Maturity Model

How advanced is your use of operational metrics to create business value?



①

Yes, choosing your best approach to metric monitoring does have a lot to do with how far along you are, and more importantly, how far you want to go with metrics. In fact, we call this the Metrics Maturity Model, and it's a handy tool for our customers and prospects to help clarify their vision for a

②

③

more data-driven implementation of DevOps, and their route to getting there. Let's detail this more. In simple terms, we at Wavefront see four stages that customers and prospects are in, as it relates to their use of operational metrics: Crawl, Walk, Run or Fly.



# Intro to the Metrics Maturity Model

How advanced is your use of operational metrics to create business value?

What defines these stages are primarily 5 vectors of advancement in their use of metrics for monitoring.

**GREEN Row** – classifies how metrics-driven (or metrics-informed) your decision making is across the monitoring continuum, Plan-Release-Deploy-Monitor-Investigate-Resolve.

**ORANGE Row** – describes how deeply and completely you've modeled your application system and environment, to the point of a complete set of measurable computed metrics and KPIs that are the best and most direct indicators of customer experience and business performance that you can continuously measure.

**BLUE Row** – rates on how pervasively metrics are made available with tooling to the organization and the level of those metrics and tools are in everyday use – this includes pushing metrics and alert customization to multiple teams, to the level of true, self-service metrics based common tooling – i.e. it's about who sets the metrics and alerts.

**YELLOW Row** – describes how sophisticated monitoring (aka alerting) is across the organization – from critical/clear actionable alerting to proactive/preventative/leading indicator alerting – who sets them, who uses them, and their escalations, again along both paths, either critical and informational paths.

**PURPLE Row** – It categorizes on a whole, when are metrics routinely used, is it just for the reactive (detect and investigate) times or are they also routinely and systematically used for proactive purposes, like validation of ongoing code optimization cycles,

routine analysis of system trends and work to identify leading indicators of future critical situations (so they can be mitigated before they actually happen), as well as for planning of future release, say by determining quantifiably with metrics whether the value intended in a given release was actually released.

These four stages – the Crawl, Walk, Run, and Fly columns – represent the level of advancement across the five colored vectors. CRAWLING is effectively untried with metrics, WALKING is starting out, starting to get some of the benefits, but still in a relatively early phase. RUNNING is a concerted effort and an ongoing commitment to the metrics approach – an intermediate level with demonstrated value realized, but capable of much more value. Finally, there are those organizations that soar, and are FLYING with metrics, using them at an advanced level, and using them to outperform their peers.

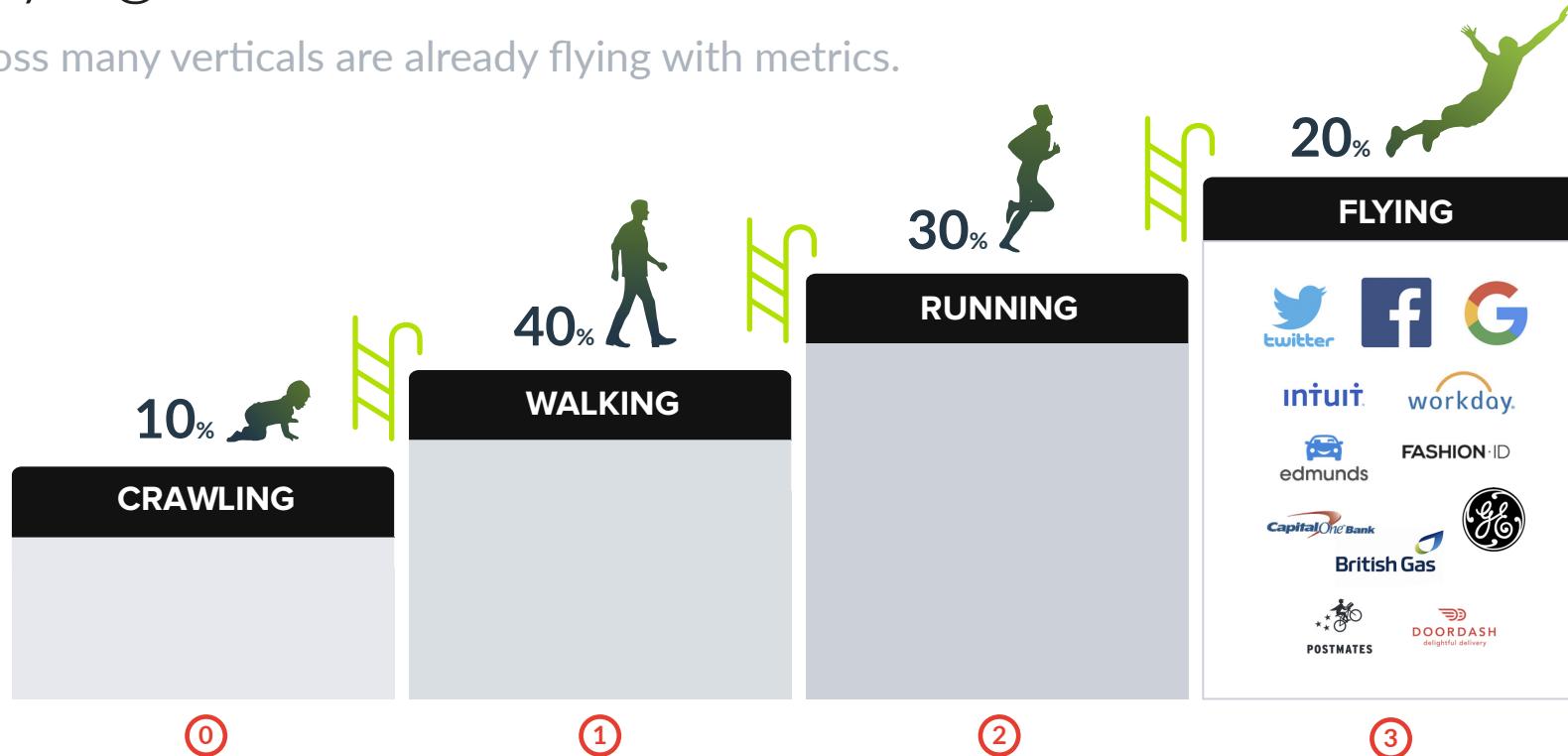
In our survey of hundreds of DevOps teams across all verticals and geos, we see about 20% of organizations already operating at the FLYING stage with metrics – a pretty sizable group is already there. Another 70% are either in the WALKING or RUNNING stages currently, and the remaining 10% or so, haven't really gotten out of the gate.

This is all from a current point of view. Where they WANT TO BE with metrics is a different, later stage, most often the FLYING stage because that's where the value to outperform really happens. And what else that's important here is how fast can you get to where you want to be with metrics, and how you can get there faster.



# Who's Flying with Advanced Metrics

Companies across many verticals are already flying with metrics.



As just mention on the previous page, there are many companies today that are already operating in the later maturity stages with metrics – they are **FLYERS**, and they are usually outperforming too.

It's certainly not just the web-scale companies in Silicon Valley either – yes there is Google, Facebook, Twitter – but there are good example across a variety of verticals: digital enterprises like Intuit and Workday, e-commerce companies like Edmunds and FashionID, traditional enterprises like GE, British Gas, and Capital One. On-demand logistics companies like Postmates

and DoorDash. These are just some examples of brands that most have likely heard of, just to name a few.

The point here is that it's very doable to be a **FLYER**, and your organization should absolutely aspire to this advanced stage with metrics. Sure, you could advance to the next stage serially, slowly. But you can also advance faster, and you can do better with the help of the metrics platform approach that can absolutely help you get there sooner.



# How to Self-Assess Your Metrics Maturity

So we've prepared a list of questions that can help you assess your proclivity to accelerate to FLYING with metrics. Not every question here is a 'yes or no' but the more the responses that are yes or 'larger than average', the more you are ready for (and need) today what an advanced metrics-driven approach can deliver.

The first five questions relate to the software that defines your business. The next five questions relate to the volume and sophistication of your data management.

As examples of insight to this self-assessment, your answers to questions (6) and (8) will speak to your deployment preference for metrics monitoring, cloud-hosted or not. Your answers to questions (8) and (9) will speak directly to your sophistication around data management.

If these questions don't resonate with you, then maybe, you may not need to be FLYING with metrics in the very near future. But if they do resonate, the next question is how can you learn to FLY faster and sooner?

## Software Proclivity

- ① How many engineers (software developers, operations engineers, platform engineers, etc.)?
- ② Do you write application code or do you rely on 3rd party applications?
- ③ Does your application code directly make \$ for your business?
- ④ DevOps/continuous delivery adoption – you live and breathe it as native tongue, or just starting?
- ⑤ Progression of developers taking on greater responsibility for code in production?

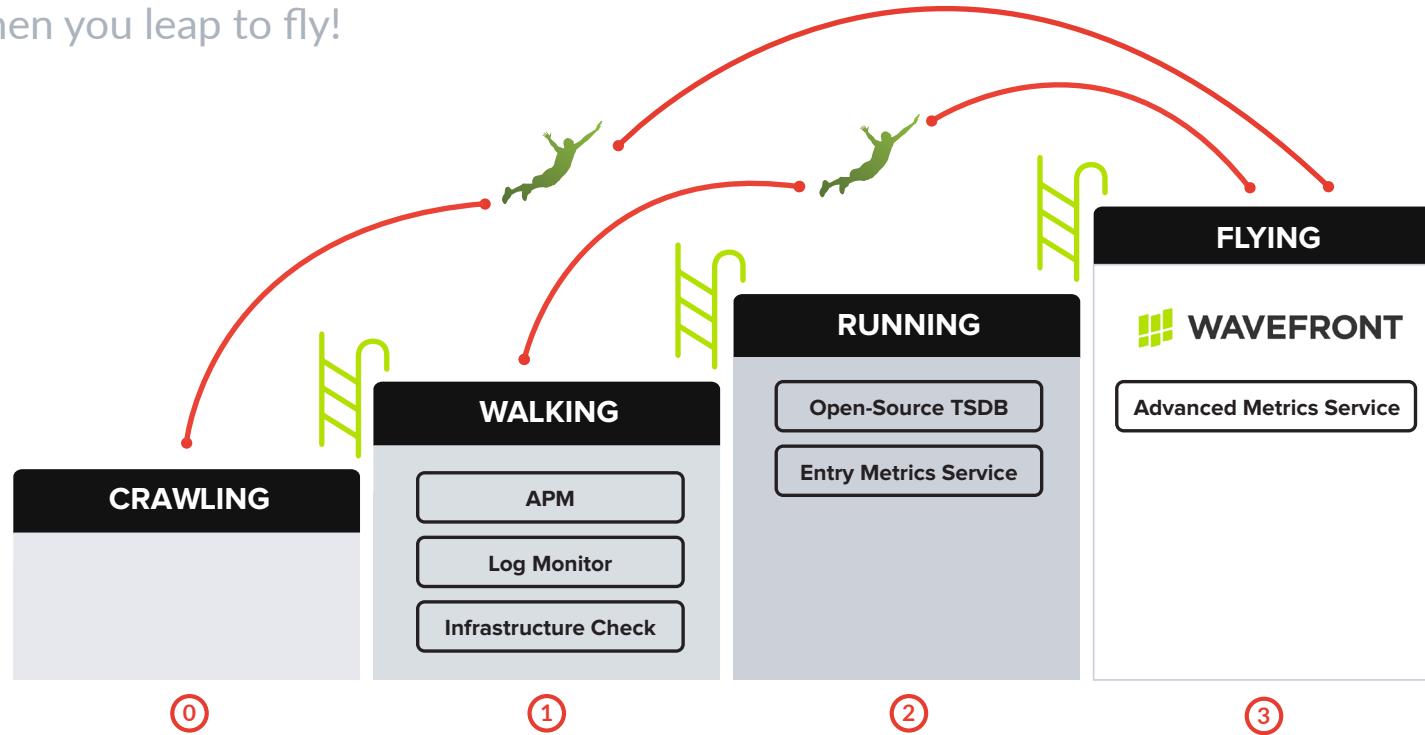
## Data Proclivity

- ⑥ Are you cloud-native, or running on your own data centers?
- ⑦ Do you send any operational data into the cloud?
- ⑧ Are there existing monitoring tools in use already, or not much in place?
- ⑨ Do you have messaging queue already in place?
- ⑩ How often is your "operational timescale"?



# Strategies for Advancing Your Metrics Maturity

Immediate value when you leap to fly!



So you're starting somewhere on the Metrics Maturity Model, but you want to advance. You ultimately want to **FLY** and you'd like to get there ASAP.

The traditional path is the standard progression to advance serially to the next stage, and then to the next stage, and so on.

But leading companies don't move serially. They will often leap-frog. And you can do this too. You can see where the different potential approaches to metrics monitoring reside within the model: tools in stage 1, tools in stage 2, advanced metrics service, specifically like Wavefront, stands out in stage 3.

We have many customers that have successfully leaped to us from each of the less mature stages. And more importantly, by selecting Wavefront before they were actually **FLYING**, got them **FLYING** faster, because Wavefront's advanced capabilities helped get them there faster. This is what I mean by, 'DevOps teams realize immediate value when they leap to **FLY**'.

OK, what's best and appropriate next is to review some different, real-world case studies of the journeys taken by leading SaaS businesses. The next pages will look at four: Intuit, Shooju, Medallia, and Workday.



# Paths to Advanced Metrics: Case Studies

*“Our experience with Wavefront continues to be uniformly superb. It’s a very long time since any tech impressed me anywhere as much.”*

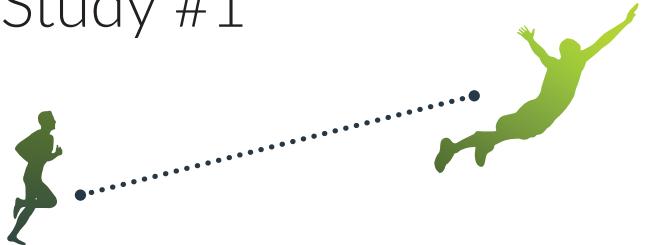


**Sam Pointer**

Site Reliability Engineer, British Gas Connected Home



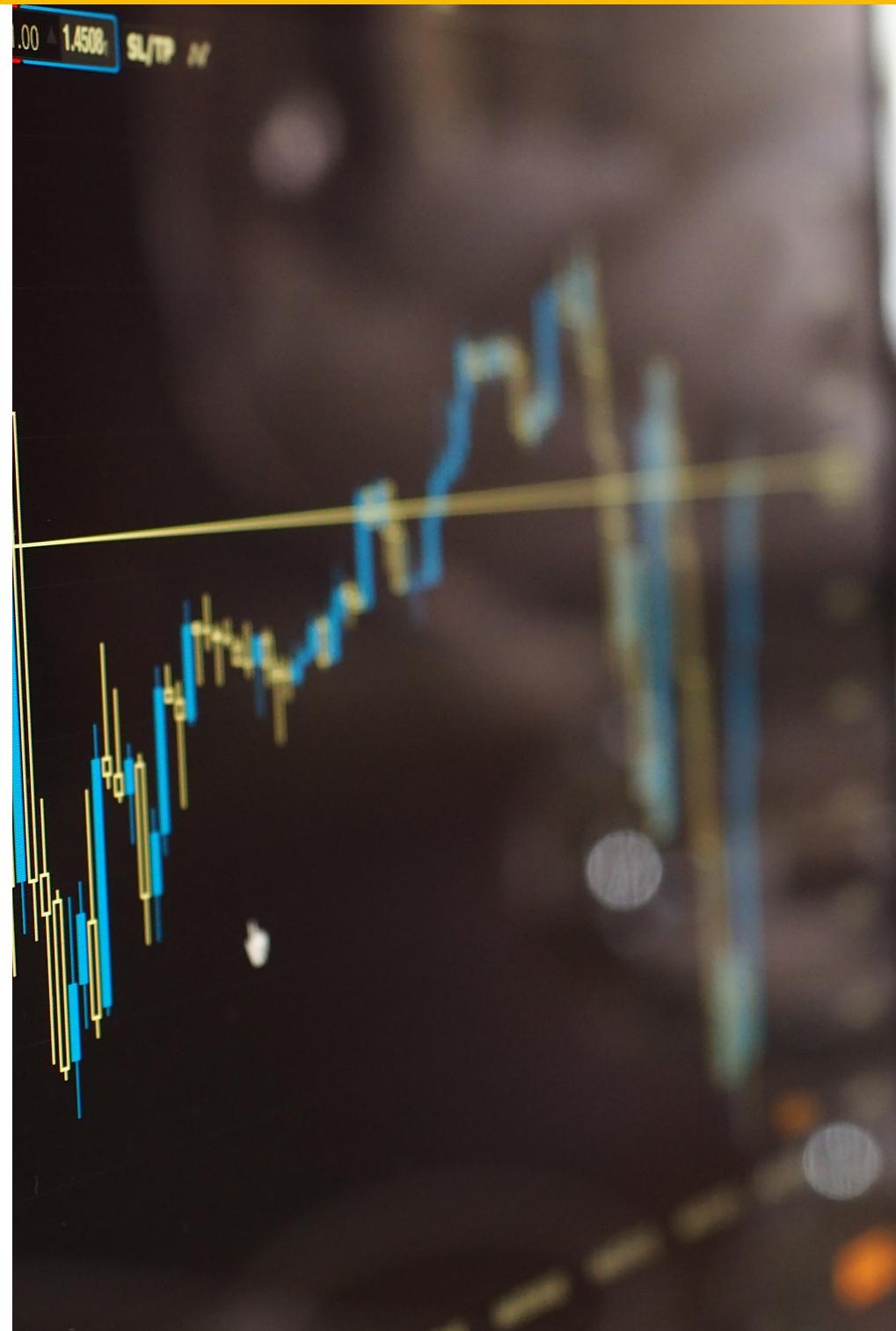
# Metrics Platform Case Study #1



STARTED WITH AN IN-HOUSE TIME-SERIES DATABASE, UPGRADED TO WAVEFRONT'S ADVANCED METRICS-AS-A-SERVICE.

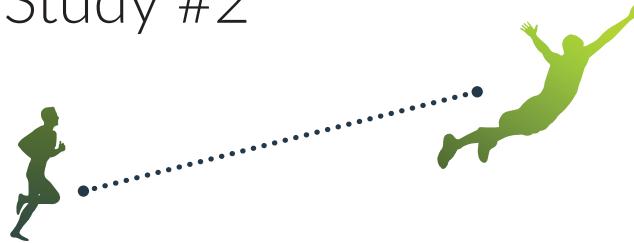
Intuit is a major business and financial software company selling a variety of software and services to small businesses, accountants and individuals.

1	<b>METRICS Maturity JOURNEY:</b> Run -> Fly
2	<b>HOW WAS THEIR INITIAL PLATFORM HOLDING THEM BACK:</b> Started with Graphite + Grafana as a short-term solution. It lacked metadata capability, required too much maintenance (several times, metrics not collected when needed most). Also, its scalability didn't make sense (particularly for where they wanted to go, i.e. to self-service metrics).
3	<b>WHAT WAS IMPORTANT WHEN TRIALING AND EVALUATING WAVEFRONT:</b> Reliability and scale. Other commercial metrics services had problems that. With other services, they were OK if you only used the pre-canned dashboards, but those pre-canned dashboards are good to get going, but then weren't that useful in ongoing production. 100% data fidelity was also key – they saw that data was rolling up in other solutions – the fidelity loss was unacceptable.
4	<b>WHAT THEY PARTICULARLY LIKED ABOUT WAVEFRONT:</b> Wavefront is high quality – e.g. always available. It was clear in the test (vs. others) that Wavefront has the enterprise performance, reliability, and scale they needed for a big rollout. It was the best backend solution because of scale. No aggregation of data; they could also add tags on the fly.
5	<b>THEIR BENEFITS AND VALUES SINCE USING WAVEFRONT:</b> It was a quick transition to Wavefront for development teams. Have since moved from reactive to proactive - catching issues earlier (before users affected). Realize clear advantage of a unified metrics toolset, to correlate, to collaborate (no more silo-ed tools with different data).



# Metrics Platform Case Study #2

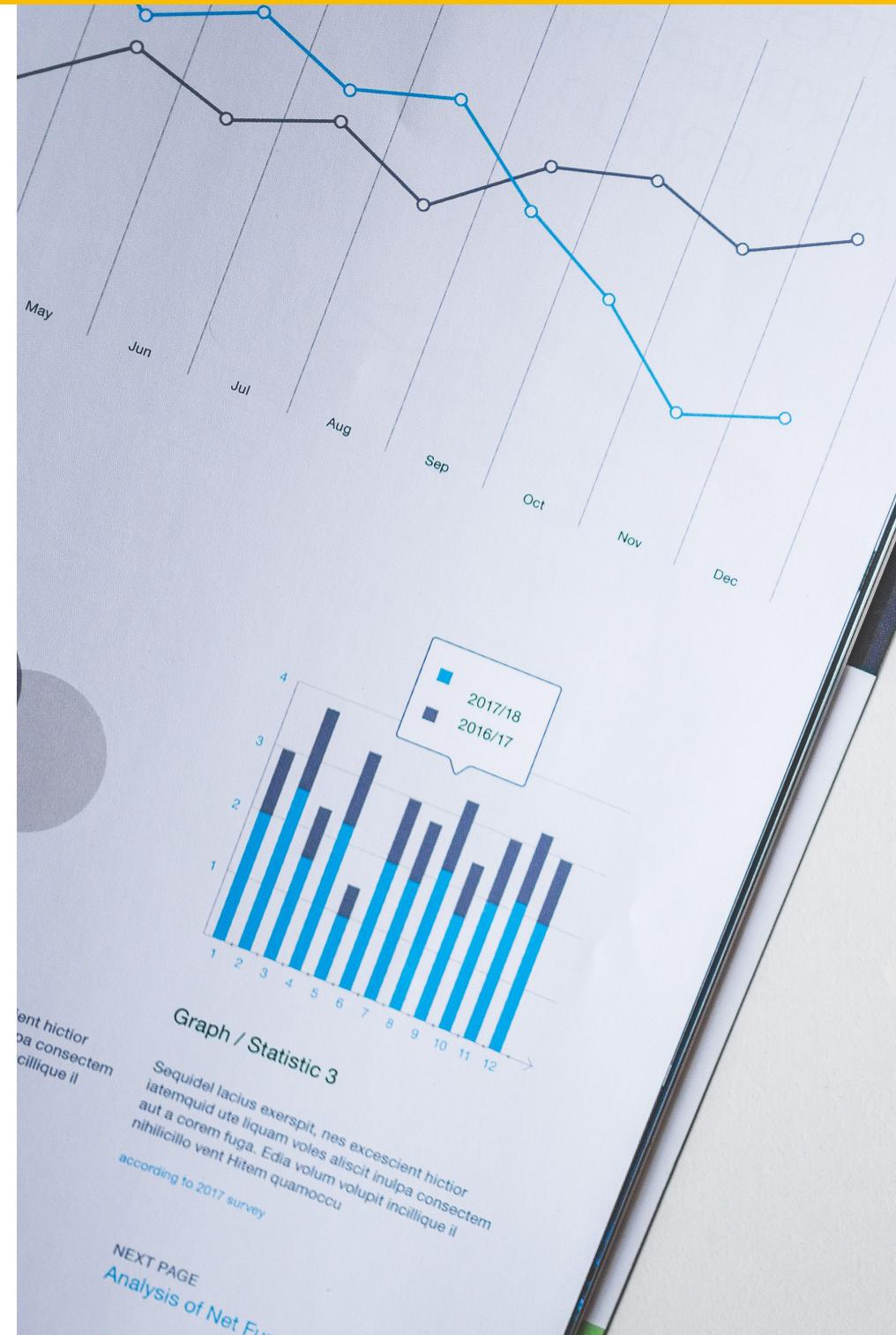
# SHOOJU



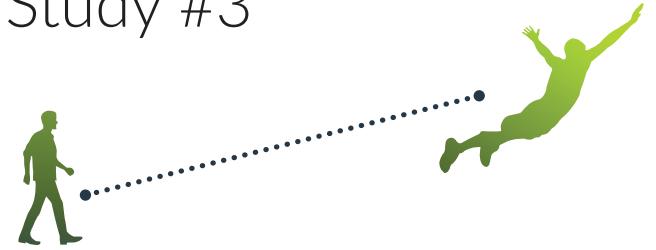
STARTED WITH AN ENTRY-LEVEL METRICS-AS-A-SERVICE, UPGRADED TO WAVEFRONT'S ADVANCED METRICS-AS-A-SERVICE.

Shooju.com is a high-growth SaaS business that provides an online data platform used by financial analysts and traders worldwide.

1	<b>METRICS Maturity JOURNEY:</b> Run -> Fly
2	<b>HOW WAS THEIR INITIAL PLATFORM HOLDING THEM BACK:</b> [started with another commercial platform but was [a] forced into point-n-click chart and dashboard creation (not flexible); [b] visualization options were also too limiting - e.g. scaling and stacking options; [c] API was too weak, e.g. 3 APIs for different things – made it difficult to automate.]
3	<b>WHAT WAS IMPORTANT WHEN TRIALING AND EVALUATING WAVEFRONT:</b> Richness and flexibility of visualization options. “What defines a great monitoring tool like Wavefront is how flexible it is, and how easily our DevOps team can customize it to their specific needs.”
4	<b>WHAT THEY PARTICULARLY LIKED ABOUT WAVEFRONT:</b> Great analytics. Flexibility with charting, not limited to pre-canned dashboards. Wavefront was only vendor to hit all of the visualization criteria: e.g. scatterplot, stacking modes in stacked charts, logarithmic y axis, options for unit formatting (SI, etc.).
5	<b>THEIR BENEFITS AND VALUES SINCE USING WAVEFRONT:</b> Better visibility and usability with the customized views. Rich analytics saves time, allowing them to very quickly transform and analyze their time series data. Complete API to improve automation to follow cloud resources as they change quickly.



# Metrics Platform Case Study #3



STARTED WITH INFRASTRUCTURE CHECK AND LOG MON TOOLS, UPGRADED TO WAVEFRONT'S ADVANCED METRICS-AS-A-SERVICE.

Medallia, is a high-growth SaaS company that provides customer experience management and enterprise feedback management to businesses worldwide.

1	<b>METRICS Maturity JOURNEY:</b> Walk -> Fly
2	<b>HOW WAS THEIR INITIAL PLATFORM HOLDING THEM BACK:</b> Had Zabbix for Infra-checks, some Log, Sumologic. [a] Zabbix only served Ops, isn't a Dev tool (no application/ business metrics insights), and they want to provide visibility for Dev teams across the board. [b] Sumo couldn't provide the richness and depth and scale they needed for metrics.
3	<b>WHAT WAS IMPORTANT WHEN TRIALING AND EVALUATING WAVEFRONT:</b> Their app performance can't be impacted. The APM tool (New Relic) impacted their app's performance; wanted to instrument with Dropwizard metrics, for lightness and the economics for doing so (compared to APM tool); also, was looking for better alerting.
4	<b>WHAT THEY PARTICULARLY LIKED ABOUT WAVEFRONT:</b> Got Wavefront running and visualizing metrics immediately. They could offer self-service analytics for all users; sophistication of alerting, to base off any query and create from any chart.
5	<b>THEIR BENEFITS AND VALUES SINCE USING WAVEFRONT:</b> They could now roll out a common visibility tool for all of their developers. Quick ramp up. Now using Wavefront across all phases of production: development, testing, production.



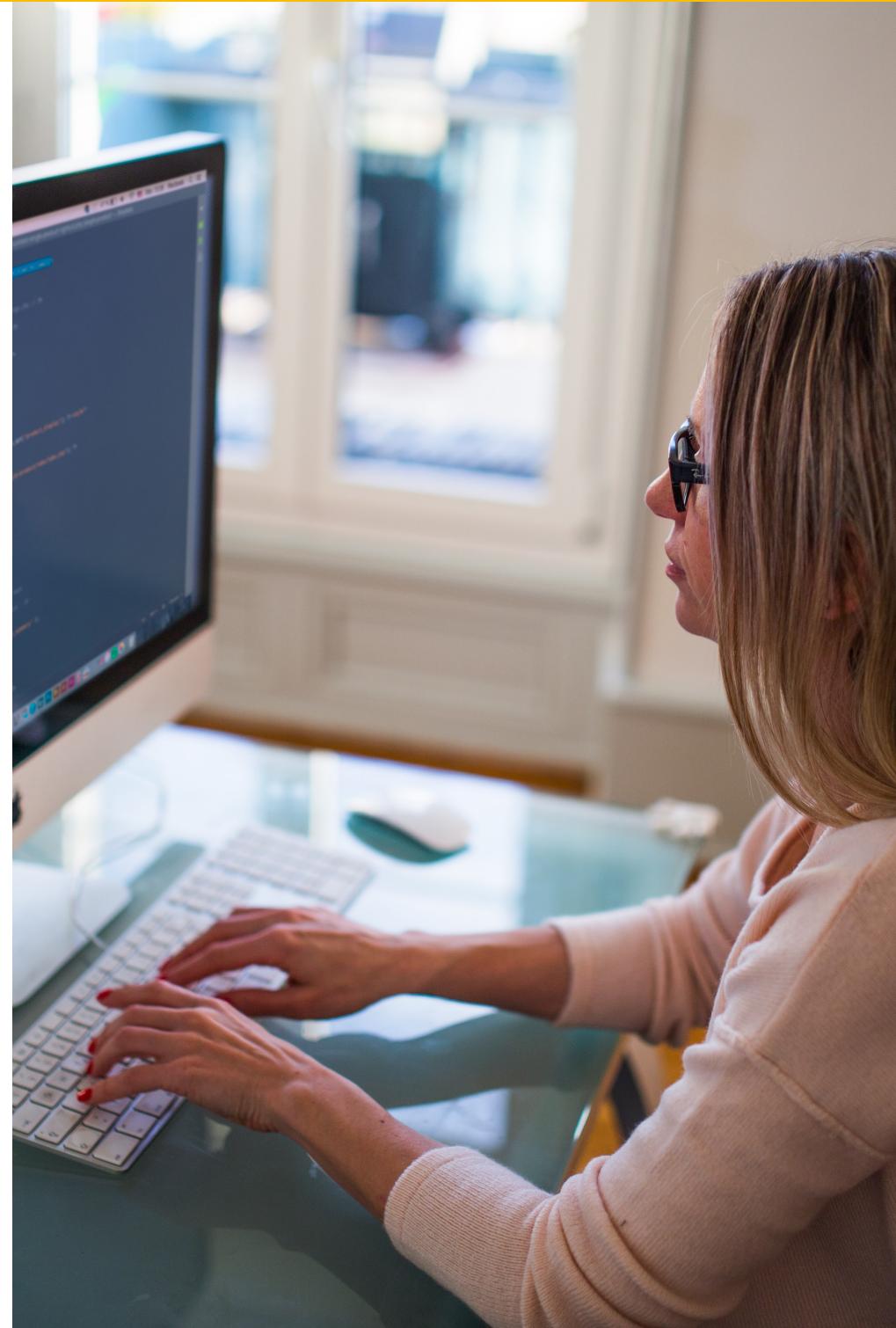
# Metrics Platform Case Study #4



STARTED WITH AN IN-HOUSE TIME-SERIES DATABASE, UPGRADED TO WAVEFRONT'S ADVANCED METRICS-AS-A-SERVICE.

Workday is a market-leading and well-known business and financial software company. They provide cloud-hosted, on-demand ERP for HR and financial planning.

1	<b>METRICS Maturity JOURNEY:</b> Crawl -> Fly
2	<b>HOW WAS THEIR INITIAL PLATFORM HOLDING THEM BACK:</b> They were doing nothing, several years back. They wanted to move faster but couldn't. It was a question of finite resources at the time and what could be done, doing a metrics platform in-house had to get pushed out vs. other priorities and needs at the time.
3	<b>WHAT WAS IMPORTANT WHEN TRIALING AND EVALUATING WAVEFRONT:</b> Breadth of integrations – to bring together all types of metrics from a variety of systems and tools. Reliability and stability of the platform at scale. Support model. The rollout of Wavefront to developers was quick and aggressive. Wavefront was able to handle the scale without a hitch. The number of developers actively using it exceeds 300 in the first couple of months, and now over 1,000 developers. The platform engineering group started rollout where they set the metrics and alerts, but now metrics are self-service, as developers can create dashboards and alerts with their own metrics.
4	<b>WHAT THEY PARTICULARLY LIKED ABOUT WAVEFRONT:</b> A turn-key, metrics cloud-service from a team that knew what enterprise scale means and had done it before. The enterprise performance, reliability, and scale showed well in the trial. By going with Wavefront they effectively got something for "free".
5	<b>THEIR BENEFITS AND VALUES SINCE USING WAVEFRONT:</b> Wavefront system is highly reliable; they need it when there are problems with their code. The level of technical support is excellent. "This is gold".



5

# How to Get Started with Metrics

*“I used to spend an hour every morning trying to figure out what happened to my systems overnight, but with Wavefront, that’s down to 5 minutes with 1 dashboard.”*



**Adam Surak**  
Director of Infrastructure, Algolia.com



# Metrics Platform Decision Process

## 1.

### Create a project team and action plan.

Form a team to oversee the entire process beginning with a roadmap of action. Team should include at least one exec sponsor. Seek representation from each key team, including primary users within monitoring process. Action plan should include goals, objectives and milestone markers for measuring success.

## 2.

### Review current process for potential improvement.

Document monitoring processes and workflow to find potential areas for improvement. Gather requirements from multiple teams and primary users. Understand limitations of current tools. From here, start to prepare your needs analysis.

## 3.

### Prioritize business value and needs.

Prioritize business needs by determining which features you would like to have and features you absolutely need to have. Define improvements to cost, time, and customer satisfaction. Start to fence these needs with defining your preliminary budget, and other possible implications of changing monitoring tools.

## 4.

### Assess your path on Metrics Maturity Model.

Determine where you currently are and where you want to be within the Metrics Maturity Model, then how are you going to advance, e.g. serially or leap-frog. Assess the business value for advancing in your metrics maturity – this will help you justify your recommendation, based on a business value assessment (BVA).

## 5.

### Set your metrics strategy, types, and collection.

Determine what metrics and key performance indicators (KPIs) are most important to your business, and then key metrics across your environment that are drivers of these KPIs. Determine how you will generate these metrics – where you will instrument, use existing tools, collection, and where gaps may be.

## 6.

### Prepare your evaluation checklist.

Rank features and capabilities in terms of what's really required. A simple prioritization may be: mission-critical, desirable, and nice to have. Prior to final selection, combine these criteria to create a shopping list of useful features to use in pre-qualifying solution providers.

## 7.

### Qualify and evaluate potential solutions.

Reduce the number of solutions to evaluate to 2-3, there usually isn't time for more. Do your research. Further qualify solution providers with live interactions using scorecard. Conduct trial evaluation over a short period (two weeks to a month) to determine software works in your organization's existing environment.

## 8.

### Make decision based on business value assessment.

Organize your final recommendation into a quantified case for making the change to a new monitoring approach. Translate the new capabilities into additional business value received, e.g. productivity improvement, service quality, customer satisfaction, etc. Connect the value with total cost of solution to show ROI.



# Why the Wavefront Metrics Platform

Know first about anomalies in your cloud application in production.  
Boost performance proactively. Drive accountability for everyone.



### QUERY-DRIVEN ANALYTICS

The most powerful query language in monitoring running against a unified, full detail, metrics store in real-time with no limits.



### INTELLIGENT ALERTING

The results are higher quality alerts, anomaly detection, and crucially valuable insights that no other monitoring tool can offer.



### MADE FOR ENTERPRISES

For serious SaaS and digital businesses where performance, reliability, scale and support are essential to their business.



### #1 IN SELF-SERVICE METRICS FOR DEVOPS AND DEV TEAMS

Find out why Wavefront helps you build and run great software at

[wavefront.com](http://wavefront.com)

### IMMEDIATE BENEFITS:

30x

more frequent deploys

200x

shorter lead time

60x

fewer failures

168x

faster recovery



# How to get Started with Wavefront – Go to [wavefront.com](http://wavefront.com)



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Solution Details for:

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[WAVEFRONT.COM/GET-STARTED](http://WAVEFRONT.COM/GET-STARTED)

*eBook*

Practical Guide to Metric Monitoring and Approaches

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